

Date: Tuesday, 11/29/2005 3:05:45 PM
User: Linda Lacelle

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : SADDLE FITTING, AFT (OUTBOARD/INBOARD)
Job Number : 25018	
Estimate Number : 10533	
P.O. Number : N/A	Part Number : D2573
This Issue : 11/29/2005 S.O. No. : N/A	Drawing Number : D2573 REV D
Prsht Rev. : NC	Project Number : N/A
First Issue : N/A Type : MACHINED PARTS	Drawing Revision : D
Previous Run : 24839	Material : N/A
Written By : <u>SEE COMMENT BELOW</u>	Due Date : 1/5/2006
Checked & Approved By : <u>SEE ABOVE DATE & USER</u>	Qty: 8 Um: Each
Comment : Est: H 02.10.02 Re-format; Change to Dwg Rev. D & incorporated D2574KJ	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	D6101007	7075-T7351 8.25X7.75X2.5
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 8.0000 Each(s)
7075-T7351 8.25X7.75X2.5
Make from D6101-007 billet for D2573
Ensure that grain is along 7.75" length
Batch No: B24893

J.G 06/01/16

2.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
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**Comment:** HAAS CNC VERTICAL MACHINING #1Program Batch No. 25018 Double check by: JDJ.G 06/01/16
M8 06/01/16

1-Machine Step No 1 per Folio FA051 and inspect per attached Dimension Sheets
2-Machine Step No 2 per Folio FA051 and inspect per attached Dimension Sheets
3-Machine Step No 3 per Folio FA051 and inspect per attached Dimension Sheets
4-Deburr and remove all machining marks
5-Tumble to remove sharp edges. N/A

3.0	MILLING CONV.	CONVENTIONAL MILLING MACHINE
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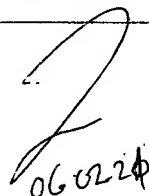



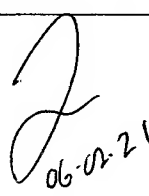




Comment: CONVENTIONAL MILLING MACHINE
Machine keyway as per dwg D2573 & D2574

- M8 06/01/16
- J.G

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: ☒ Date: 06/01/19
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
06/01/19	2	Dimension (W) the thickness of the 2" bore is below tolerance. Part not shimmed properly.	 06.01.24 per QSI 642	changed shims Thickness of 0.112" OK. see email	S.G 06/01/19	 06.02.24	 06.01.24 per QSI 642	 06.02.21
06/01/19	2	Dimension (W) the thickness of the 2" bore is below tolerance, and the part moved in 4th axis opp making dimension (D) under tolerance. Part not shimmed properly.	 06.01.24 per QSI 642	changed shims Thickness of 0.112" OK Hole spacing OK. see email	06/01/19	 06.02.21	 06.01.24 per QSI 642	 06.02.21

NOTE: Date & initial all entries

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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SADDLE FITTING, AFT (OUTBOARD/INBOARD)

Job Number: 25018

Part Number: D2573

Job Number:



Seq. #:

Machine Or Operation:

Description :

4.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



- MB 06/01/18
- J.G



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

8

5.0

QC8

SECOND CHECK



Comment: SECOND CHECK

FBG

06-01-21

8

6.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

FF 06-02-09

8

7.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

DL 06/02/19

8

8.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT

C 206/02/20

8

9.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: ST 479

C 206/02/20 8

10.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

SUR 06/02/21

8

206/02/21

Job Completion



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____





QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

02.09.25

MATERIAL: 7075-T7351 (QQ-A-250/12)
(REF DART SPEC. D6102-001)
FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER
DART QSI 005 4.3
BREAK ALL SHARP EDGES 0.010 TO 0.020
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

- | | |
|---|--|
|  | ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO MAX DEPTH OF 0.010 |
|  | ENGRAVE DART LOGO TO MAX DEPTH OF 0.015 WITH MIN RAD 0.125 |
|  | CHAMFER 0.063" x 45° AROUND THIS SURFACE (TYPICAL 2 PLACES) |
|  | CHAMFER 0.063" x 45° ALL AROUND |

Technical drawing of a mechanical part showing a cross-section. The drawing includes the following dimensions and features:

- Overall width: 5.000
- Top left width: 1.73
- Top left depth: 0.20
- Feature 2: A triangular feature labeled "2".
- Top right radius: R0.66 (TYP)
- Top right radius: R0.50 (TYP)
- Feature DART: A feature labeled "DART" with a dashed line indicating its location.
- Bottom left width: 3.500 ± 0.005
- Bottom right width: 1.750 ± 0.005
- Bottom center features: Two circular features with crosshairs.

SECTION A-A

Dimensions and features shown in the section view:

- Overall width: 3.230 ± 0.020
- Radii: $R0.50$ (TYP), $R0.250$ (TYP ALL RIDGES), $R0.188$ (TYP AROUND POCKET), $R1.510$
- Flat surface on ridge: 0.240
- Vertical dimensions: 0.750 , 0.250 , 1.698 (REF)
- Horizontal dimensions at base: 0.125 , 0.250
- Small vertical dimension: 0.063

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AND IS SUPPLIED ON THE EXPRESS CONDITION
THAT IT IS NOT TO BE USED FOR ANY PURPOSE
OR COPIED OR COMMUNICATED TO ANY OTHER
PERSON WITHOUT WRITTEN PERMISSION FROM
DART AEROSPACE LTD.

D	02.09.06	ADD RIDGES; TIGHTEN TOLERANCES
C	99.10.22	INCRP. DEO 9123/9079/9102 ADD DIMENSIONS PER TSR A1177
B	96.12.02	ADD GRAIN DIR., 0.438 WAS 0.425
A	96.09.16	NEW ISSUE

DESIGN #	DRAWN BY CP	DART	DART AEROSPACE LTD. HARRISBURY, ONTARIO, CANADA
CHECKED #	APPROVED #		
DATE 02.09.06		DRAWING NO. D2573	REV. SHEET 1 OF
		TITLE OUTER AFT SADDLE	SCALE 2:



DART AEROSPACE LTD		Work Order:	25018
Description: Saddle, Aft Outboard		Part Number:	D2573
Inspection Dwg: D2573 Rev. E		Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing D2573 Rev. E and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
A	0.438	0.443	DT8682	✓	✓	✓	✓		
B	1.745	1.755		1.750	1.750	1.750	1.748		
C	3.495	3.505		3.500	3.500	3.500	3.501		
D	1.745	1.755		1.750	1.750	1.750	1.746		
E	7.990	8.010		8.003	8.002	8.004	8.004		
F	0.490	0.510		.497	.503	.502	0.496		
G	0.257	0.262	DT8683	✓	✓	✓	✓		
H	0.375	0.380	DT8684	✓	✓	✓	✓		
I	0.490	0.510		.503	.504	.507	0.500		
J	1.174	1.184		1.180	1.180	1.180	1.179		
K	0.558	0.578		.572	.570	.573	0.568		
L	1.174	1.184		1.180	1.180	1.180	1.180		
M	1.365	1.375		1.371	1.371	1.370	1.369		
N	2.495	2.505		2.500	2.500	2.500	2.499		
O	4.119	4.129		4.123	4.125	4.124	4.121		
P	0.115	0.135		.125	.125	.125	0.126		
Q	0.115	0.135		.135	.135	.135	0.135		
R	0.240	0.260		.245	.244	.248	0.244		
S	0.115	0.135		.123	.124	.125	0.124		
T	0.178	0.198		.188	.188	.188	.188		
U	3.210	3.250		3.231	3.231	3.230	3.231		
V	0.230	0.250		.235	.235	.237	0.235		
W	0.115	0.135		.125	.124	.125	0.125		
X	0.308	0.313		.308	.311	.311	0.311		
Y	0.760	0.765		.762	.762	.762	0.761		
Z	0.352	0.372		.368	.368	.370	0.364		
AA	0.470	0.530		.500	.500	.500	.500		
AB	0.615	0.635		.631	.629	.627	0.6		
AC	0.053	0.073		.063	.063	.063	.063		
AD	0.240	0.260		.247	.246	.250	0.248		
AE	1.500	1.520		1.512	1.511	1.513	1.515		
AF	0.115	0.135		.135	.130	.128	0.129		
AG	0.240	0.280		.270	.270	.270	0.270		
AH	0.240	0.260		.246	.246	.246	0.245		
AI	2.000	2.020		2.002	2.002	2.005	2.007		
AJ	0.023	0.043		.03	.03	.03	.03		
Accept/Reject									

Measured by:	MS 06/01/18
Date:	

Audited by:	
Date:	

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.26	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

RELEASED
05.12.09

DART AEROSPACE LTD		Work Order:	
Description: Saddle, Aft Outboard		Part Number:	D2573
Inspection Dwg: D2573 Rev. E		Page 1 of 1	

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				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
A	0.438	0.443	DT8682	✓	✓	✓	✓		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.503	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.002	8.002	8.003	8.002		
F	0.490	0.510		.500	.498	.503	.503		
G	0.257	0.262	DT8683	✓	✓	✓	✓		
H	0.375	0.380	DT8684	✓	✓	✓	✓		
I	0.490	0.510		.501	.503	.503	.502		
J	1.174	1.184		1.180	1.180	1.180	1.180		
K	0.558	0.578		.569	.569	.568	.568		
L	1.174	1.184		1.180	1.180	1.180	1.180		
M	1.365	1.375		1.370	1.370	1.371	1.371		
N	2.495	2.505		2.501	2.500	2.500	2.500		
O	4.119	4.129		4.122	4.124	4.123	4.123		
P	0.115	0.135		.125	.124	.125	.125		
Q	0.115	0.135		.135	.135	.135	.135		
R	0.240	0.260		.247	.245	.248	.248		
S	0.115	0.135		.125	.121	.122	.122		
T	0.178	0.198		.188	.188	.188	.188		
U	3.210	3.250		3.231	3.231	3.231	3.232		
V	0.230	0.250		.240	.238	.239	.240		
W	0.115	0.135		.122	.124	.124	.125		
X	0.308	0.313		.309	.310	.310	.310		
Y	0.760	0.765		.762	.762	.762	.762		
Z	0.352	0.372		.370	.371	.359	.363		
AA	0.470	0.530		.500	.500	.500	.500		
AB	0.615	0.635		.630	.632	.628	.625		
AC	0.053	0.073		.063	.063	.063	.063		
AD	0.240	0.260		.247	.247	.248	.248		
AE	1.500	1.520		1.511	1.511	1.510	1.511		
AF	0.115	0.135		.135	.135	.135	.135		
AG	0.240	0.280		.260	.260	.260	.260		
AH	0.240	0.260		.250	.249	.248	.248		
AI	2.000	2.020		2.004	2.004	2.003	2.003		
AJ	0.023	0.043		.03	.03	.03	.03		
Accept/Reject									

Measured by:	M8
Date:	06/01/21

Audited by:	J.G
Date:	06/01/21

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.26	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

RELEASED
05.12.05

Chris Provencal

From: David Shepherd [davids@dartaero.com]
Sent: January 24, 2006 3:17 PM
To: Chris Provencal
Subject: Re: D2573 NCR

Chris,

I also checked the fit of the parts on two skidtubes in production, and didn't have a problem with fit.
Therefore, these parts are acceptable deviations.

David

----- Original Message -----

From: "Chris Provencal" <cprovencal@dartaero.com>
To: <davids@dartaero.com>
Sent: Tuesday, January 24, 2006 12:44 PM
Subject: D2573 NCR

> D2573 Saddle:
>
> One saddle, the thickness on the 2" bore is 0.112" (0.003" under min tol)
>
> One saddle, the thickness on the 2" bore is 0.112" and the spacing of
> between two of the saddle-to-skidtube holes is 1.743" (0.002" under min
> tol). I checked the part on one of our 412 skidtubes in the shed, and
with
> D2570 bushing it fit OK.
>
> Are these parts acceptable.
>
>
> Sincerely,
> Chris Provencal
> DART Aerospace Ltd.
> Email..cprovencal@dartaero.com
> Phone...613-632-3336
> Fax.....613-632-4443
>
>